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INT-CL (IPC): G01R031/26; G01R031/28 ; G11C029/00 ; H01L021/66 ; H01L027/10

ABSTRACTED-PUB-NO: DE 10036177A

BASIC-ABSTRACT: NOVELTY - A device for testing semiconductor devices (3) in order to detect faulty devices, has a tunable light source (4) which is capable of projecting light of a given wavelength (lambda) and intensity (I) on to the semiconductor device (3) for a given length of time (T), so that with irradiation of the semiconductor device with this light, electrons can cross over from the valence band with a small gap, into the conduction band .

USE - Testing of semiconductor devices by measuring the gap between the valence band and the conduction band, with low values compared with the values obtained with flaw-free semiconductor devices.

ADVANTAGE - Requires no waiting time for temperature changes to take effect and in general long waiting times are avoided. In addition, no cost-intensive changes of equipment are required during testing of different semiconductor devices.

DESCRIPTION OF DRAWING(S) - A schematic representation of the device is given.

Wafer probe 1

Details | Text | Image | HTML | FULL

	Document ID	Kind Codes	Source	Issue Date	Pages	
1	JP 2002118156		JPO	20020419	5	APPAF
2	NB890887		IBM_TDB	19890801	1	Biasi
3	NN87024105		IBM_TDB	19870201	2	Non-I
4	DE 10036177 A		DERWENT	20020214	5	Equi

Details | Text | Image | HTML

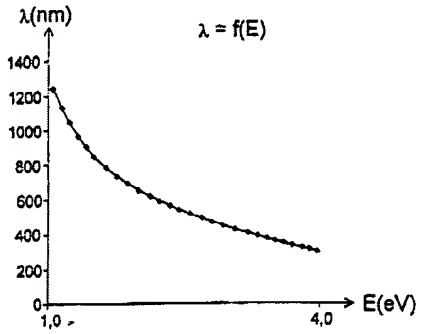

Fig. 1

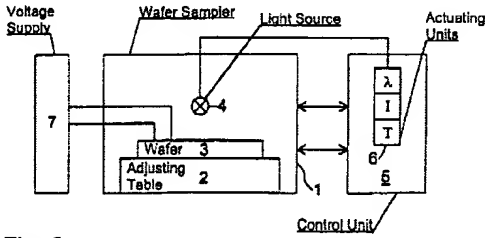

Fig. 2

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EAST Browser - L2: (4) valence adj... | DE 10036177 A | Tag: S,P,T1 | Doc: 4/4 | Format: KWIC

File Edit View Tools Window Help

Courier New 12

DERWENT-WEEK: 200247

TITLE: Equipment for quality testing of semiconductor devices, measures gap between valence band and conduction band of semiconductor devices

---------- KWIC ---------

Basic Abstract Text - ABTX (1):

NOVELTY - A device for testing semiconductor devices (3) in order to detect faulty devices, has a tunable light source (4) which is capable of projecting light of a given wavelength (lambda) and intensity (I) on to the semiconductor device (3) for a given length of time (T), so that with irradiation of the semiconductor device with this light, electrons can cross over from the valence band with a small gap, into the conduction band .

Basic Abstract Text - ABTX (2):

USE - Testing of semiconductor devices by measuring the gap between the valence band and the conduction band, with low values compared with the values obtained with flaw-free semiconductor devices.

Details Text Image HTML KWIC

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1	JP 2002118156		JPO	20020419	5	APPAF
2	NB890887		IBM_TDB	19890801	1	Biasi
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4	DE 10036177 A		DERWENT	20020214	5	Equip

Details Text Image HTML

US 20020021141A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2002/0021141 A1

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(54) APPARATUS FOR TESTING SEMICONDUCTOR DEVICES

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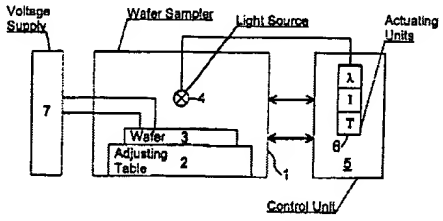
(51) Int. Cl.[7] G01R 31/26

(52) U.S. Cl. 324/765

(57) ABSTRACT

An apparatus for testing wafer-level semiconductor devices, in particular memory chips in which a tunable light source radiates energy onto the semiconductor devices. The tunable light source is constructed to adjust the radiated light to a specific wavelength and to a specific intensity and to project the light for a predetermined time. When the semiconductor devices are irradiated with the light, electrons in defective ones of the semiconductor devices, in which a distance between a valence band and a conduction band has a lower value as compared with that of defect-free ones of the semiconductor devices, can be transferred into the conduction band from the valence band. These defective or "poor" semiconductor devices can thus be separated out.



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